1979 Article Index

This composite index of articles and authors covers the various subjects published in *Semiconductor International* in 1979. The listings are by article title under three main categories of Processing, Assembly and Testing. The author index at the end of this section indicates the month in which the author's feature appeared. Reprints are not available for general distribution.

Processing

"Mask Alignment and Photolithographic Wafer Imaging Systems Trends," Donald J. Levinthal, Jan.-Feb., pg 29.

"Deep UV Photolithography," Yasuaki Nakane, Toshiro Tsumori and Tadayosi Mifune, Jan.-Feb., pg 45.

"A Comparison of Commercially Available Electron Beam Resists," G. W. Martel and W. B. Thompson, Jan.-Feb., pg 69.

"Pulsed Electron Beams: Advancement in Semiconductor Processing," R. G. Little and A. C. Greenwald, Jan.-Feb. pg 81.

"Modern Water Treatment Techniques," Jeff Gorski, Jan.-Feb. pg 93.

"CVD Process Trends," Robert J. Robinson, Mar. pg 27.

"New Advances in Semiconductor Implantation," H. S. Rupprecht, Apr., pg 61.

"Automating the Photoresist Application/Development Cycle," Robert J. Robinson, May, pg 31.

"Sputtering Deposition Trends," SI Staff, May, pg 43.

"VLSI Processing, Radiation and Hardening," K.F. Galloway, May, pg 65.

"Diffusion System Trends," Donald J. Levinthal, June, pg 31.

"Ion Implanters Overcoming Current Barriers," Robert J. Robinson, June, pg 45.

"Laser Trends in Semiconductor Processing," Robert A. Kaplan, June, pg 55.

"Vacuum Equipment Considerations for Gases in Plasma and Low Pressure CVD," Lester F. Dahlstedt, June, pg 62.

"Pattern/Mask Generation Trends," SI Staff, July-Aug., pg 41.

"Gettering of Stacking-Fault Nuclei in Silicon by Use of HCl," Takeshi Hattori, July-Aug., pg 83.

"Vacuum Technology Trends," Donald J. Levinthal, Sept., pg 75.

"Crystal Growing Spotlight," John H. Matlock, Oct., pg 33.

"Silicon Wafer Manufacturing: Wafering," Pieter S. Burggraaf, Oct., pg 48.

"Silicon Wafer Manufacturing: Finishing," Pieter S. Burggraaf, Oct. pg 58.

"Oxygen and Carbon in Silicon Crystals," H. M. Liaw, Oct., pg 71.

"Photolithographic Mask Release Coating," Eugene R. Blome, Nov., pg 75.

"Plasma Etching Technology," Pieter S. Burggraaf, Dec., pg 49.

"A Production-Viable Plasma Developable Photoresist (PDP)," James N. Smith, H.G. Hughes, J.V. Keller, W. R. Goodner and T. E. Wood, Dec., Pg 41.

"High Resolution Polysilicon Etching," Fran Robb, Dec., pg 60.

Assembly

"Trends in Tape Bonding," Carmen D. Burns, Apr., pg. 25.

"Semiconductor Packaging Trends," Donald J. Levinthal, Apr., pg 33.

"Automated Packaging of a Premolded Chip Carrier," Dimitry G. Grabbe and Alan Keizer, Apr., pg 43.

"Dielectric Properties of Encapsulants Under Temperature and Humidity Conditions," W.L. Hunter and R.J. Zettek, Apr., pg 53.

"Active Protection of IC Surfaces," George Cvijanovich, May, pg 57.

"Low Cost Hermetic Chip Carriers," Robert D. Vernon, Jr., July-Aug., pg 71.

"Semiconductor Package Sealing," Pieter S. Burggraaf, Sept., pg 35.

"Water Vapor Sorption of Package Sealants," R. W. Vasofsky, Sept., pg 63.

"Development of an 18-Pin Premolded Plastic DIP," F. D. Parker and J. W. Stafford, Nov., pg 49.

"Semiconductor Manufacturing Trends in Korea and Taiwan," Ron Iscoff, Dec., pg 27.

Testing

"Wafer Flatness Testing," Robert J. Robinson, Jan.-Feb., pg 57.

"Poor Oxide Causes MOS Capacitor Failure in Voltage Regulator IC," Greg Landrum, Jan.-Feb., pg 90.

"The SEM As a Diagnostic Tool," John R. Devaney, Mar., pg 39.

"SEM Product Review," Molly McCormick, Mar., pg 43.

"Investigation of the Distribution of Mechanical Damage in Silicon Wafers," F. G. Vieweg-Gutberlet, Mar., pg 53.

"Characterization of Wafer Defects by ASLEEP, SEM and Scanning AES," A. Christou, G. Nelson, W. Jenkins, J. E. Davey and W. Wilkins, Mar., pg 59.

"Oxide Steps Can Cause Field Failures," Greg Landrum, Mar., pg 68.

"High Humidity Conditions Cause Failure in High Voltage Linear Circuits," Greg Landrum, Apr. pg 70.

"Electron Beam Induced Current," H. J. Leamy, L. C. Kimerling, and S. D. Ferris, May, pg 75.

"Power MOSFETs: In Search of a Thermal Resistance Standard." Bernard S. Siegal, May, pg 93.

"Moisture Related Failures in Epoxy Packages," Greg Landrum, June, pg 68.

"The Challenge of Testing Digital-Analog Chips," Chris Chrones, July-Aug., pg 55.

"Inadequate Aluminum Step Coverage Causes Temperature-dependent Failure," Greg Landrum, July-Aug., pg 90.

"Failure Mechanisms in Molded Microelectronic Packages," L. G. Feinstein, Sept., pg 51.

"Microcrack Detection in Silicon Crystals with an Ultrasonic Sonoprobe," David C. Guidici, Oct., pg 66.

"Loose Particles in Package Cavities Cause Random Failures in ICs," Greg Landrum, Oct. pg 84.

"Automatic IC Test Handlers: A Product Review," Pieter S. Burggraaf, Nov., pg 23.

"High Technology Memory Testing: Its Past, Present and Future, [illegible] W. Van Ness, Nov., pg 41.

"Measuring Dielectric Film Integrity: An Application," F. Lynwood Givens and William J. Daughton, Nov., pg 63.

Buyers Guide to Suppliers

1979/1980 Buyers Guide Issue, Nov.

Conferences and Exhibitions

ASEE '79, Advanced Semiconductor Equipment Exposition Preview, Jan.-Feb., pg 101

SEMICON West '79 Product Preview, May, pg 111.

American Vacuum Society Product Preview, Sept., pg 92.

ISHM Product Preview, Sept., pg 102.

1979 Article Index

This composite index of articles and authors covers the various subjects published in *Semiconductor International* in 1979. The listings are by article title under three main categories of Processing, Assembly and Testing. The author index at the end of this section indicates the month in which the author's feature appeared. Reprints are not available for general distribution.

Processing

"Mask Alignment and Photolithographic Wafer Imaging Systems Trends," Donald J. Levinthal, Jan.-Feb., pg 29.

"Deep UV Photolithography," Yasuaki Nakane, Toshiro Tsumori and Tadayosi Mifune, Jan.-Feb., pg 45.

"A Comparison of Commercially Available Electron Beam Resists," G. W. Martel and W. B. Thompson, Jan.-Feb., pg 69.

"Pulsed Electron Beams: Advancement in Semiconductor Processing," R. G. Little and A. C. Greenwald, Jan.-Feb. pg 81.

"Modern Water Treatment Techniques," Jeff Gorski, Jan.-Feb. pg 93.

"CVD Process Trends," Robert J. Robinson, Mar. pg 27.

"New Advances in Semiconductor Implantation," H. S. Rupprecht, Apr., pg 61.

"Automating the Photoresist Application/Development Cycle," Robert J. Robinson, May, pg 31.

"Sputtering Deposition Trends," SI Staff, May, pg 43.

"VLSI Processing, Radiation and Hardening," K.F. Galloway, May, pg 65.

"Diffusion System Trends," Donald J. Levinthal, June, pg 31.

"Ion Implanters Overcoming Current Barriers," Robert J. Robinson, June, pg 45.

"Laser Trends in Semiconductor Processing," Robert A. Kaplan, June, pg 55.

"Vacuum Equipment Considerations for Gases in Plasma and Low Pressure CVD," Lester F. Dahlstedt, June, pg 62.

"Pattern/Mask Generation Trends," SI Staff, July-Aug., pg 41.

"Gettering of Stacking-Fault Nuclei in Silicon by Use of HCl," Takeshi Hattori, July-Aug., pg 83.

"Vacuum Technology Trends," Donald J. Levinthal, Sept., pg 75.

"Crystal Growing Spotlight," John H. Matlock, Oct., pg 33.

"Silicon Wafer Manufacturing: Wafering," Pieter S. Burggraaf, Oct., pg 48.

"Silicon Wafer Manufacturing: Finishing," Pieter S. Burggraaf, Oct. pg 58.

"Oxygen and Carbon in Silicon Crystals," H. M. Liaw, Oct., pg 71.

"Photolithographic Mask Release Coating," Eugene R. Blome, Nov., pg 75.

"Plasma Etching Technology," Pieter S. Burggraaf, Dec., pg 49.

"A Production-Viable Plasma Developable Photoresist (PDP)," James N. Smith, H.G. Hughes, J.V. Keller, W. R. Goodner and T. E. Wood, Dec., Pg 41.

"High Resolution Polysilicon Etching," Fran Robb, Dec., pg 60.

Assembly

"Trends in Tape Bonding," Carmen D. Burns, Apr., pg. 25.

"Semiconductor Packaging Trends," Donald J. Levinthal, Apr., pg 33.

"Automated Packaging of a Premolded Chip Carrier," Dimitry G. Grabbe and Alan Keizer, Apr., pg 43.

"Dielectric Properties of Encapsulants Under Temperature and Humidity Conditions," W.L. Hunter and R.J. Zettek, Apr., pg 53.

"Active Protection of IC Surfaces," George Cvijanovich, May, pg 57.

"Low Cost Hermetic Chip Carriers," Robert D. Vernon, Jr., July-Aug., pg 71.

"Semiconductor Package Sealing," Pieter S. Burggraaf, Sept., pg 35.

"Water Vapor Sorption of Package Sealants," R. W. Vasofsky, Sept., pg 63.

"Development of an 18-Pin Premolded Plastic DIP," F. D. Parker and J. W. Stafford, Nov., pg 49.

"Semiconductor Manufacturing Trends in Korea and Taiwan," Ron Iscoff, Dec., pg 27.

Testing

"Wafer Flatness Testing," Robert J. Robinson, Jan.-Feb., pg 57.

"Poor Oxide Causes MOS Capacitor Failure in Voltage Regulator IC," Greg Landrum, Jan.-Feb., pg 90.

"The SEM As a Diagnostic Tool," John R. Devaney, Mar., pg 39.

"SEM Product Review," Molly McCormick, Mar., pg 43.

"Investigation of the Distribution of Mechanical Damage in Silicon Wafers," F. G. Vieweg-Gutberlet, Mar., pg 53.

"Characterization of Wafer Defects by ASLEEP, SEM and Scanning AES," A. Christou, G. Nelson, W. Jenkins, J. E. Davey and W. Wilkins, Mar., pg 59.

"Oxide Steps Can Cause Field Failures," Greg Landrum, Mar., pg 68.

"High Humidity Conditions Cause Failure in High Voltage Linear Circuits," Greg Landrum, Apr. pg 70.

"Electron Beam Induced Current," H. J. Leamy, L. C. Kimerling, and S. D. Ferris, May, pg 75.

"Power MOSFETs: In Search of a Thermal Resistance Standard." Bernard S. Siegal, May, pg 93.

"Moisture Related Failures in Epoxy Packages," Greg Landrum, June, pg 68.

"The Challenge of Testing Digital-Analog Chips," Chris Chrones, July-Aug., pg 55.

"Inadequate Aluminum Step Coverage Causes Temperature-dependent Failure," Greg Landrum, July-Aug., pg 90.

"Failure Mechanisms in Molded Microelectronic Packages," L. G. Feinstein, Sept., pg 51.

"Microcrack Detection in Silicon Crystals with an Ultrasonic Sonoprobe," David C. Guidici, Oct., pg 66.

"Loose Particles in Package Cavities Cause Random Failures in ICs," Greg Landrum, Oct. pg 84.

"Automatic IC Test Handlers: A Product Review," Pieter S. Burggraaf, Nov., pg 23.

"High Technology Memory Testing: Its Past, Present and Future, [illegible] W. Van Ness, Nov., pg 41.

"Measuring Dielectric Film Integrity: An Application," F. Lynwood Givens and William J. Daughton, Nov., pg 63.

Buyers Guide to Suppliers

1979/1980 Buyers Guide Issue, Nov.

Conferences and Exhibitions

ASEE '79, Advanced Semiconductor Equipment Exposition Preview, Jan.-Feb., pg 101

SEMICON West '79 Product Preview, May, pg 111.

American Vacuum Society Product Preview, Sept., pg 92.

ISHM Product Preview, Sept., pg 102.

1979 Index of Authors

Blome, Eugene R., Nov., pg 75.
Burggraaf, Pieter S., Sept., pg 35; Oct., pg 48; Oct., pg 58; Nov., pg 23; Dec., pg 49.
Burns, Carmen D., Apr., pg 25.
Christou, A., Mar., pg 59.
Chrones, Chris, July-Aug., pg 55.
Cvijanovich, George, May, pg 57.
Dahlstedt, Lester F., June, pg 62.
Daughton, William J., Nov., pg 63.
Davey, J. E., Mar., pg 59.
Devaney, John R., Mar., pg 39.
Feinstein, L. G., Sept., pg 51.
Ferris, S. D., May, pg 75.
Galloway, K. F., May, pg 65.
Givens, F. Lynwood, Nov., pg 63.
Goodner, W. R., Dec., pg 41.
Gorski, Jeff, Jan.-Feb., pg 93.
Grabbe, Dimitry G., Apr., pg 43.
Greenwald, A. C., Jan.-Feb., pg 81.
Guidici, David C., Oct., pg 66.
Hattori, Takeshi, July-Aug., pg 83.
Hughes, H. G., Dec., pg 41.
Hunter, W. L., Apr., pg 53.
Iscoff, Ron, Dec., pg 27.
Jenkins, W., Mar., pg 59.
Kaplan, Robert A., June, pg 55.
Keizer, Alan, Apr., pg 43.
Keller, J. V., Dec., pg 41.
Kimerling, L. C., May, pg 75.
Landrum, Greg, Jan.-Feb., pg 90; Mar., pg 68; Apr., pg 70; June, pg 68; July-Aug., pg 90; Oct., pg 84.
Leamy, H. J., May, pg 75.
Levinthal, Donald J., Jan.-Feb., pg 29; Apr., pg 33; June, pg 31; Sept., pg 75.
Liaw, H. M., Oct., pg 71.
Little, R. G., Jan.-Feb., pg 81.
Martel, C. W., Jan.-Feb., pg 69.
Matlock, John H., Oct., p. 33.
McCormick, Molly, Mar., pg 43.
Mifune, Tadayosi, Jan.-Feb., pg 45.
Nakane, Yauaki, Jan.-Feb., pg 45.
Nelson, G., Mar., pg 59.
Parker, F. D., Nov., pg 49.
Robb, Fran, Dec., pg 60.
Robinson, Robert J., Jan.-Feb., pg 57; Mar., pg 27; May, pg 31; June, pg 45.
Rupprecht, H. S., Apr., pg 61.
Siegal, Bernard S., May, pg 93.
Smith, James N., Dec. pg 41.
Stafford, J. W., Nov., pg 49.
Thompson, W. B., Jan.-Feb., pg 69.
Tsumori, Toshiro, Jan.-Feb., pg 45.
Van Ness, John W., Nov., pg 41.
Vasofsky, R. W., Sept., pg 63.
Vernon, Robert D., Jr., July-Aug., pg 71.
Vieweg-Gutberlet, F. G., Mar., pg 53.
Wilkins, W., Mar., pg 59.
Wood, T. E., Dec., pg 41.
Zettek, R. J., Apr., pg 53.

ADVERTISERS INDEX

A

Air Clean Industries 72
Airco Temescal
Div. of Airco Inc. 40
Air Products
APD Cyrogenics 11
Align-Rite Corp. 57
Applied Materials 58
Ashland Chemical Co.
Div. of Ashland Oil Inc. 26

C

Canon USA Inc.
Optical Products Div. ..... Cover 2
CHA Industries 69
Colorado Video Inc. 18
Comp-Aire Systems Inc. 23
CVC Products Inc. 6

D

Delta Design 39
Dionex Gas Plasma Systems 9
Disco Abrasive Systems Inc. 55

E

Electro Scientific Industries Inc. 19
Envirco
Div. of Bio-Dynamics 31
ET Equipment Inc. 12-13

F

Ferrofluidics Corp. 61
Fluorocarbon
Process Systems Div. 70

G

General Instrument Corp. 24

H

Philip A. Hunt Chemical Corp. 37

I

ITP, Inc. 30

K

Kevex Corp. 48
Kulicke & Soffa Industries Inc. 21

L

Leybold-Heraeus
Vacuum Products Inc. 50-51
LFE Corp.
Process Control Div. 53, 65

M

Materials Development Corp. 68
Matheson 35
MKS Instruments Inc. 73

N

NCR Corp.
Microelectronics 67

O

Optical Associates Inc. ..... Cover 3

P

Perkin-Elmer Corp.
Ultek Div. 4
Plasma-Therm, Inc. 47
Production Industries Inc. 64, 70
Probe-Rite, Inc. 55

Q

Quantronix Corp. 3

R

Rucker & Kolls
A Xynetics Co. 22

S

Sage Enterprises Inc. 57
Semiconductor Equipment
and Materials Institute 73
Semi Mask, Inc. 71
Shipley Company Inc. 59
Signetics
Sub. of Philips Corp. 33
Silicon Valley Group 15
Small Precision Tools 74
Solid State Equipment Co. 25
Sputtered Films, Inc. 64
Karl Suss 42-43

T

Tencor Instruments ..... Cover 4
Tran-Sil Products Inc. 74

U

Ultra Carbon Corp. 29
US Fused Quartz Co., Inc. 34

V

Vac-Tec Systems Inc. 72
Varian
Extrion Div. 17, 45
View Engineering Inc. 71